

# **A Power Line Data Communication Interface Using Spread Spectrum technology In Home Automation**

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## **Summary**

Building automation technology is rapidly developing towards more reliable communication systems, devices that control electronic equipment. This equipment, if controlled, leads to efficient energy management, and savings on the monthly electricity bill. Power line communication (PLC) has been one of the dreams of the electronics industry for decades, especially for building automation. It is the purpose of this paper to demonstrate communication methods among electronic control devices through an AC power line carrier within the buildings for more efficient energy control. The paper outlines methods of communication over a power line, namely the X-10 and CE bus. It also introduces the spread spectrum technology as to increase speed to 100-150 times faster than the X-10 system. The power line carrier has tremendous applications in the field of building automation. The paper presents an attempt to realize a smart house concept, so called, in which all home electronic devices from a coffee maker to a water heater microwave to chaos robots will be utilized by an intelligent network whenever one wishes to do so. The designed system may be applied very profitably to help in energy management for both customer and utility

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